DOCUMENT RESUME

ED 103 294 SO 008 120

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TITLE A Study of Planet Three: A World Geography/Social Studies Course.
PUB DATE 74
NOTE 11p.

EDRS PRICE MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS Activity Learning; Course Descriptions; Ecology; *Environmental Education; Films; Futures (of Society); *Global Approach; Grade 12; *Human Geography; Instructional Materials; International Education; *Physical Geography; Secondary Education; Social Studies; Teaching Techniques; *World Geography; World Problems
IDENTIFIERS Interdependence

ABSTRACT

This 12th grade course in world geography is based on the philosophical assumption that human beings on earth make up a global village of interdependent people. It is world geography with a planetary perspective--an inquiry into the nature of the planet and its dominant species, Homo Sapiens. Seven units cover the following topics on physical and human aspects of our world: astronomical perspectives; the place of earth in space and time; natural characteristics--relief, climate, and vegetation; population density and distribution factors affecting it; the needs of people; quality of life indices; economic diversity; factors affecting the diversity from an historical perspective; and future trends. The subtopics of the themes described in the course are to be filled out through the mutual exploration of the students and teacher. Emphasis in the course is placed on individual research, creative thought, and participation in group discussion for which students are expected to keep a diary. Suggested with each unit are a variety of films; activities, particularly involving globe work; and various forms of role-play, often using the theme of a spaceship approaching the earth. Sources of films and factual data and for the global orientation are cited. (JH)

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A STUDY OF PLANET THREE

A World Geography/Social Studies Course

with a planetary perspective
for senior secondary students

Duncan Graham.....Stanstead College
Stanstead, Quebec.

SP008 120

Fall 74

A STUDY OF PLANET THREE

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This course has evolved over the last five years at Stanstead College at the Grade 12 level. It was developed because it was assumed that: we have an embryonic, if not emerging, world community; that we have a new world struggling to be born; that we have a global village of interdependant people; that no man is an island etc., ...and if this is assumed then the educational process must include the planetary perspective or, perhaps, as the Quebec geography 512 syllabus phrased it "arousing in the student a firm feeling of being a citizen of the world".

However it is one thing to accept this approach intellectually and another to permeate the syllabus with a global outlook. It is easy with our own background and cultural programming to slip into the internationalist perspective where the unity of the planet is interpreted as the unity of the United Nations. A synergistic concept is involved. The Planet Earth community is more than the sum of its parts in the same way that "America or "Canada" is more than the sum of fifty states or ten provinces. The term for such a course can reflect its philosophical base. Global studies or global education is a total word emphasising unity rather than noting differences which is inherent in other terms such as inter-cultural programmes, case studies etc. The other term used in the literature in this field, peace studies or peace education seems to analyse back to components from a desired end result (assuming a definition of the loaded term "peace") rather than the planetary, ab initio, approach which might be more successful in balancing the already built-in patterns of ethnocentric thought.

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Introducing the course, from the title on, with the planetary approach accepts that the generally sound pedagogical point of starting students with their local environment has been introduced at an earlier level (say Grade 7) and senior students are prepared to assimilate a complementary viewpoint.

Though Barbara Ward popularised the spaceship Earth theme, reinforced by Desmond Morris in The Human Zoo, specific planning of the course was influenced by Lee Anderson in his essay on Global Education. [1]

The value of the approach has been reinforced many times in this type of inquiry studies. Not only is it important in clarifying the intellectual angle or perspective but in generating interest and motivation with the student. This can sometimes be done by role-playing or scenario-building but to handle this technique effectively, or just for teacher re-orientation, it is desirable to be a participant in a workshop or presentation.

It is also important that a class set of globes be part of a modern social studies classroom that deals with globe inquiry. Each student should have his own 16" relief, or vegetation zone, coloured globe and preferably on the dish stand rather than the traditional tilted axis.

Global Education: Long Range Goals and Objectives appeared in Nov. 1968 issue of Social Education and is available as a reprint from Center for War/Peace Studies, 218 East 18th St., New York 10003. 50 cents each.

Stanstead College
Fall 74

Grade 12 Geography 600 Mr. Graham

Student's outline of course.

Study of Planet Three - This course is a world geography with a planetary perspective. It will take an inquiry approach to analyse the nature of this planet and its dominant species- Homo Sapiens.

It will be divided basically into two parts -

1. Physical - astronomical perspective, place of the Earth in space and time.
   - natural characteristics, relief, climate, vegetation.
2. People - population density and distribution and factors affecting this.
   - needs of people, quality of life indices
   - economic diversity
   - factors affecting this diversity - historical perspective
   - future trends

Format: Four 40 minute sessions per 6 day cycle. Apart from lectures emphasis is placed on individual research, creative thought and participation in group discussions. Students are expected to keep a record or summary of each session which will be a journal of the year's work and study.

Evaluation: will follow the usual procedure here of -
60% class evaluation based on journals, individual inquiries and contributions.
40% formal exams at mid-year and end of year.

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TEACHER'S OUTLINE

A Study of Earth, third planet in the solar system, and one of its principal species - Homo Sapiens.

Unit 1. Space : the astronomical dimension, relative position of Earth in the cosmos, planetary comparisons, characteristics of other planets, uniqueness of Earth especially in its temperature range in relation to water medium, appreciating the vastness of the solar system, the galaxy and the universe.

Content and materials : Film "Dealing with the Power of Ten" (12 mins.) is an excellent attempt to indicate scale. Starting with a person on a beach its scenes move out in progressions of ten, in distance and speed, to beyond the galaxies. It also has a microscopic sequence moving down through the body cells to the nucleus of an atom. A student assignment could be noting (or sketching) school complex or campus plan, local area from aerial photo (usually approx 4" - 1 mile), local topographic map (1:50,000), partial continental from atlas - locality centered and finally global with again locality centered. An Apollo photo of Earth from 100,000 miles should be poster in classroom and angle of globe compared with view on poster. A class set of globes should be considered necessary equipment.

The film "Crab Nebula" (BBC 56 mins) indicates the range and complexity of modern astronomical research and the cooperative nature involved.

Student inquiry assignment - compiling planetary, including moon, comparison table - size, revolution, tilt, orbit, rotation, relief, atmosphere etc. Latest magazine information important in this field. Evaluating understanding can effectively be done by varying the date for Earth - what would be the effect on the Earth if rotation was twice as fast, tilt was 40° instead of $23\frac{1}{2}^{\circ}$, revolution was 730 days instead of 365 etc.? Survey of space programmes and current projects - Pioneer, Apollo-Soyuz, Appollo and Junik programmes, Venus and Mars probes. This unit on space projects should be an integral part and more than a current affairs fringe.

Study of Earth

Unit 1. continued.

Possible space films: (NASA code after)
Space in the 70's - Challenge and Promise HQ 213
Apollo-Soyuz HQa 231
Apollo 17 HQ 227 (28 mins each)

"Attention Weightlessness" is an interesting early cosmonaut training film from USSR programme. Other Soviet space material apparently not available - at least in Ottawa. Set of slides available from Novosti Press Agency plus booklet "Rocket and Space Technology in USSR" - $2.00. Most students have little idea of the scope and contribution of the Soviet space programme.

Assignment to appreciate scale of solar system could include calculating model size of system if earth was standard 16" classroom globe and calculating distances on same scale. Traditional diagrams of solar system with planets in comparative sizes but distances at another scale gives no concept of the minuteness of the bodies in relation to total dimensions. Students should propose a feasible scale for a (say) field-sized model.

Night-time observations noting such stars as Sirius (brightest) Aldebaran, Betelgeuse (one of the largest), etc. also Andromeda Galaxy, nearest galaxy outside our own Milky Way galaxy. Students could be assigned one star each to research brief background date. Each student should be supplied with a star chart.

Field trip to nearest planetarium and/or observatory should be an integral part of this unit.

Unit 2. Time: other dimension of space, what is time, sense of time (biological), historical and geological time periods.

Contents and materials - "Time is" is a visually dramatic film on the meaning of time and theories of time. Requires introductory briefing and preferable two showings with discussion period between. Link with Unit 1, in that the night observations were looking out into space and back into time. Note natural time periods - day, year etc.

Study of Planet Three
Unit 2 continued.
Assignment with issued geological time chart - divide eras and periods into equal cosmic years, time solar system takes to orbit galaxy i.e., 230 million years. This assignment focusses on the earth's development time perspective which mere study of a geological chart does not. Now (or perhaps later in a review session) students propose a culture-free dating system, an alternative year zero. Note proposed UN World calendar.

Unit 3. Physical conditions of Planet Three : land/altitude distribution
temperature/precipitation
vegetation zones

Contents and materials : Individual globe inquiry. Assignment - role-playing spaceship observer approaching planet from south polar axis (mainly water with central ice cap) sweeping into equatorial orbit over central Pacific (water planet?) then into equatorial orbit round planet followed by overview of Tropic latitudes, mid-latitude lines (45° N and S.) Arctic and Antarctic Circles - relief and land distribution. Comparison of globe and planet NASA photos.

Map assignment - noting characteristics and distribution of main vegetation zones, transferring to Dymaxion flat outline maps and creating own Dymaxion globe, coloured. Series of nine filmstrips "Earth without Man" (Visual publications) is excellent for visual presentation of major zones and their wildlife.

Unit 4. Homo Sapiens : distribution and density, relationship of this to Unit 3 factors, comparative distribution with selected other species.

Contents and materials : Using same "spaceship" theme the distribution of intensive agricultural areas and urban centres would be observable from a space flight (Skylab photos National Geographic Oct. 74 using opaque projector) and can be an introduction to student producing

Study of Planet Three

Unit 4 continued.

global population distribution map. Using standard class atlas compile list of cities over 1 million. Students should analyse this date to derive relationships between population and physical zones noted in Unit 3. for modern pop. pattern and also for earliest civilisations Mayan, Egyptian, Mesopotamian, Indus and Han Chinese. (OP transparencies available commercially). Graph number of cities against latitude. Noting concentration of major pop. clusters set simulation exercise - e.g. as member of UN committee select site for new United Nations headquarters, as alternative to New York, which would be equidistant from major population units or say within a jet non-stop flight (5,500 miles) from 80% of world's people. Use globe and string. (Helsinki?) Also using globe and string and assuming direct great circle routes specify distance and direction for air routes from local or nearest airport to specified cities.

Unit 5. Needs of People : quality of life indices, nutrition life expectancy, literacy, shelter, mobility. global economics disparity.

Contents and materials : World Bank data noting limitations on GNP per capita for all countries, population, population growth rate and economic growth rate. Reference to Barbara Ward's "revolution of rising expectations". Discussion on, for example, Trudeau's Duke University speech of May 12th, 1974 on value of GNP and economic growth as indicators.

Unit 6. Factors affecting needs of people : arable land distribution and productivity, non-renewable resources and their depletion, population growth, capital (human and monetary), social organisation.

Study of Planet Three

Unit 6 continued.

Contents and materials : As far as possible the factors above and others should be elicited from, or contributed by, students. Discussion on the analysis of these factors with guidance to further reading - e.g. on funds for development and allocation to world's military budgets use "Economic and Social Consequences of Disarmament" 1964 UN study booklet still worthwhile. With it could go "Age of Megaton" filmstrip with sound commentary. Population growth - graph of birth rate and death rate and resultant climb in population graph. Simulation on this - with one minute representing 10 years and one student representing x million people (depending on size of group, divide 4 billion by no.) and starting at say 1800 AD move student into designated "world" area at appropriate intervals.

Unit 7 : Human social organisation : cross-currents in global society of supra- , inter- , intra-nationalism, separatism, regionalism.

Contents and materials : Major historical symbolic events in history of world community e.g. Magellan, Gagarin, Armstrong and in social organisation. First Hague Conference, League of Nations, United Nations (especially specialised agencies). Reference Barbara Tuchman's Proud Tower Ch. 6 and Universal Declaration of Human Rights leaflet. Assignment : collect press clippings of violations of human rights. Note changing role of women in global society. Films "The Hat" (15 mins) and "Dead Birds" (60 mins) lead into conflict resolution and territorial delineation, cf. animal kingdom. The Hat is a cartoon film and Dead Birds deals with tribal conflict in central New Guinea. For discussion film "Voyage to Next" (15 mins) cartoon. Africa can be used as example of the flux of borders in history with filmstrip "Tribalism in Black Africa". Simulation "Starpower" can be used...with caution. Final discussion on people's goals as defined in UN Charter and actual achievements. Visit to UN or nearest agency.

Study of Planet Three

References: The outline of the course and the materials suggested is a teacher's guide. As far as possible the sub-topics to the themes should be contributed by the students and ideally it should be a mutual exploration. Flexibility should be accepted to allow a particular interest to be followed further. There is a wide variety of possible material but the items listed have been used and are generally excellent. Source for some films etc. in the U.S. may vary but in Canada the Canadian Film Institute, 1760 Carling Ave., Ottawa, is an excellent source at reasonable rentals and borrowing periods. Films mentioned can be obtained from them except - "Crab Nebula" - BBC film...British Broadcasting Corp., 135 Maitland St., Toronto, Ont.

"The Hat" and "Voyage to Next" also filmstrips "Age of Megaton" and Tribalism in Black Africa" from Institute for World Order, 1140 Avenue of the Americas, New York 10036.

NASA films available in Canada from Canadian Film Institute.

World Bank data. The World Bank, or officially International Bank for Reconstruction and Development, produces a magazine "Finance and Development" which can be obtained regularly free. Write to the Bank at 19th and H St., N.W., Washington, D.C.

Population simulation modified from one mentioned in teaching guide for film "Population and Quality of Life" (IWO) by Magnus Haavelsrud. Background reading is unending but two of perhaps special interest could be Richard Falk's "Endangered Planet" and Lester Brown's "World without Borders". There is also, in a different vein, "Passages about Earth" by William Irwin Thompson. An organisation to know about in connection with human rights is Amnesty International.

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